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# *Diplococcium variegatum*, a new conidial fungus from the semi-arid Caatinga biome of Brazil

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Abstract — *Diplococcium variegatum* sp. nov., found on a decaying leaf of an unidentified plant, is described and illustrated. It is characterized by variegated pigmented structures and limoniform to ovoid, 0-septate, pale brown, brown to dark brown conidia in acropetal chains.

Key words — hyphomycetes, plant debris, taxonomy

## Introduction

During surveys for conidial fungi on plant debris in a semi-arid region of northeast Brazil, an interesting specimen of *Diplococcium* Grove was found. The fungus clearly differs morphologically from all described species and is therefore described as new.

## Materials & methods

Expeditions to Serra da Jibóia, Bahia, Brazil were made every 3 months, from October 2008 to April 2009. Samples of plant debris (twigs, bark, leaves, and petioles) were collected in paper bags. In the laboratory the samples were placed in Petri dish moist chambers and stored in a 170 L polystyrene box with 200 mL sterile water plus 2 mL glycerol at 25°C for 30 days (Castañeda-Ruiz 2005). During this period, the samples were examined for the presence of conidial fungi. Slides were prepared in polyvinyl alcohol plus lactic acid and phenol. Measurements were made at a magnification of ×1000. Micrographs were obtained with an Olympus BX 51.

## Taxonomy

***Diplococcium variegatum*** S.S. Silva, Gusmão & R.F. Castañeda, **sp. nov.** Fig. 1

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Differs from *Diplococcium parcum* by larger limoniform to ovoid conidia and the variably colored conidiogenous cells.

Type: Brazil. Bahia State: Santa Teresinha, Serra da Jibóia, on decaying leaves of an unidentified plant, 19.II.2009; coll. S.S. Silva. (**Holotype**: HUEFS 194254).

Etymology: Latin, *variegatum*, referring to the variable coloration of the conidiogenous cells and conidia.

Colonies effuse, hairy, brown. Mycelium superficial and immersed in substrate. Conidiophores macronematous, mononematous, erect, straight to slightly flexuous, simple or branched, 4–7-septate, smooth, brown below, variegated pigmented towards the apex, 135–189 × 12.0–16.5 µm, cell basal lobed 21–45 µm wide. Conidiogenous cells polytretic, integrated, terminal and intercalary, pale brown to dark brown to reddish brown, 19.5–25 × 5.0–6.5 µm. Conidia limoniform to ovoid, unicellular, smooth, thick-walled, pale brown to dark brown or reddish brown, 7.5–22.5 × 5–12 µm, forming acropetal chains. Teleomorph unknown.

Note: *Diplococcium* was described by Grove (1885) with the type species *D. spicatum* Grove from dead wood in England. Braun et al. (1996), Castañeda-Ruiz & Kendrick (1991), Cruz et al. (2007), Goh & Hyde (1998), Hernández-Restrepo et al. (2012), Ma et al. (2012), Pirozynski (1972), and Wang & Sutton (1998) documented 28 accepted species of *Diplococcium*, which are characterized by terminal or intercalary polytretic conidiogenous cells that produce 0–7-septate conidia in acropetal chains. *Diplococcium capitatum* Piroz., *D. hughesii* C.J.K. Wang & B. Sutton, and *D. parcum* Hol.-Jech. are also species that produce exclusively aseptate conidia. *Diplococcium capitatum* differs from *D. variegatum* by conidiogenous pores confined to a swollen terminal cell that produces short cylindric or broadly ellipsoid conidia (Pirozynski 1972); *D. hughesii* is separated by its subglobose oval to oblong smaller (7–12 × 5–7µm) conidia and highly branched longer conidiophores (Holubová-Jechová 1982, Wang & Sutton 1998), while *D. parcum* produces smaller (8.5–13 × 5.5–8 µm) ovate to obpyriform or ellipsoidal conidia (Holubová-Jechová 1982).

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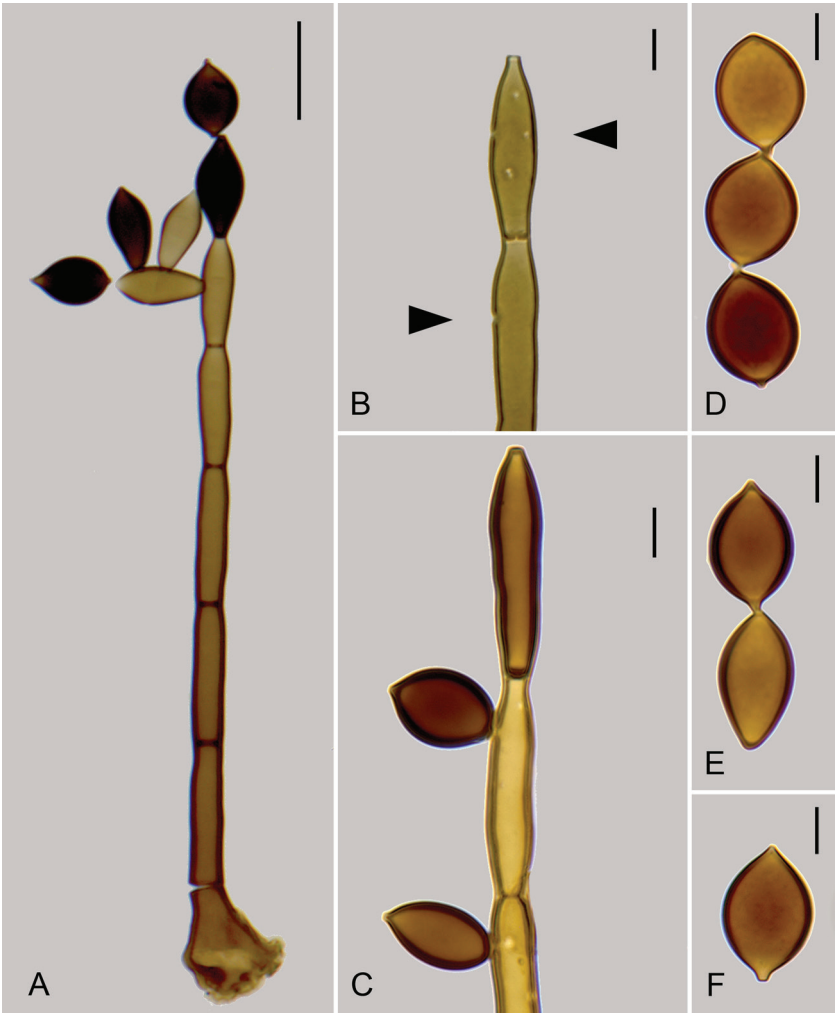


Fig 1. *Diplococcium variegatum* (ex HUEFS 194254). A. Conidiophore and conidia. B. Conidiogenous cell and pores (indicated by arrows). C. Conidiogenous cells and conidia. D–F. Conidia. Scale bars: A = 20 μm; B–F = 5 μm.

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